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### Static Electricity Precautions

1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

### Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your mainboard vendor about those damages.

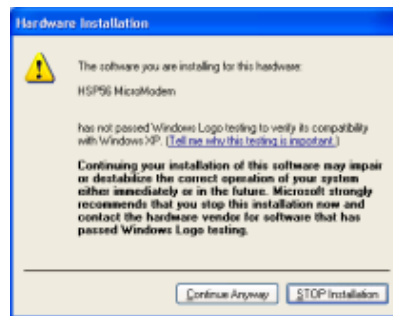
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KVM800M Series, V1.6A  
January 2005**

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Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pops out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.



2. USB 2.0 Driver Limitations:
  - 2-1. The USB 2.0 driver only supports Windows XP and Windows 2000.
  - 2-2. If you connect a USB 2.0 hub to the root hub, plugging USB devices into this hub, the system might not successfully execute certain USB devices' connection because it could not recognize these devices.

## Chapter 1 Introduction

This motherboard has a **Socket-754** supporting the newest and advanced **AMD Athlon 64/Sempron** with **HyperTransport Technology** processors, Front-Side Bus (FSB) speeds up to **800 MHz** and system bus to 1600 MT/s.

This motherboard integrates the **VIA K8M800** Northbridge and **VT8237** Southbridge that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs, and the built-in **USB 2.0** providing higher bandwidth. It implements **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 0.95**.

It supports 6-channel **AC'97 Audio Codec** and provides one **IDE Ultra DMA 133/100/66** channel. It has two 32-bit **PCI** slots, one **8X AGP** slot, one **CNR** (Communications and Networking Riser) slot, and supports the onboard **10BaseT/100BaseTX Network** interface (optional). In addition, this motherboard has a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one VGA port, one LAN port (optional), four back-panel **USB2.0** ports, and three audio jacks for microphone, line-in and line-out. Onboard USB header(s) can provide extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is a **Micro ATX size** motherboard and has power connectors for an ATX power supply.

### Key Features

The key features of this motherboard include:

#### Socket-754 Processor Support

- Supports AMD **Athlon 64/Sempron** processors
- Supports Front-Side Bus **800 MHz**

**Note:** **HyperTransport Technology** is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

#### Chipset

There are **VIA K8M800 Northbridge** and **VT8237 Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance.

- Defines Highly Integrated Solutions for High-Performance Workstation & PC Desktop Designs -- High-performance North Bridge with HyperTransport interface to AMD™ K8 CPU plus AGP 8X external bus to external Graphics Controller plus high-speed V-Link interface to South Bridge

## Motherboard User's Guide

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- High Performance HyperTransport CPU Interface -- Processor interface via HyperTransport interface
- Full Featured Accelerated Graphics Port (AGP) Controller
  - AGP v3.0 compliant 8X / 4X transfer mode with Fast Write Support
  - Pipelined split-transaction long-burst transfers up to 2.1 GB/sec (4 bytes x 533 MHz)
- High Bandwidth 1 GB/Sec 16-Bit Ultra V-Link Host Controller -- Supports 66MHz, 4X and 8X transfer modes, Ultra V-Link Host interface with total bandwidth of 1 GB/sec
- Advanced System Power Management Support -- ACPI 2.0 and PCI Bus Power Management 1.2 compliant
- PCI to system memory data streaming up to 132Mbyte/sec (data sent to north bridge via high speed Ultra V-Link interface)
- PCI-2.2 compliant, 32-bit 3.3V PCI interface with 5V tolerant inputs
- Support three PCI slots of arbitration and decoding for all integrated functions and LPC bus.
- Dual Channel Serial ATA/RAID Controller—Complies with Serial ATA Specification Revision 1.0

### Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports **DDR400**/333/266 memory bus
- Maximum installed memory is 2GB

### Expansion Slots

- One CNR slot
- One **8X** AGP slot
- Two 32-bit PCI slots for PCI 2.2-compliant bus interface

### Onboard IDE channels

- Two IDE Connectors
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/66 MB/sec

### Serial ATA

- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates
- Low pin count for both host and devices

### AC'97 Codec

- Compliant with AC'97 2.3 specification
- 16-bit Stereo full-duplex CODEC with independent and variable sampling rate

- Support for 3.3v digital, 5v analog power supply and low power consumption management
- Three analog line-level stereo inputs with 5-bit volume control: LINE\_IN, CD, AUX
- Front-Out, Surround-Out, MIC-In and LINE-In Jack Sensing
- Two analog line-level mono input
- Standard 48-Pin LQFP

### Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- One VGA port
- Four back-panel USB2.0 ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

### Fast Ethernet LAN (optional)

- Built-in **100Base-TX/10Base-T Physical Layer solution**
- Dual Speed – 100/10 Mbps
- MII Interface to Ethernet Controller and Configuration & Status
- Auto Negotiation: 10/100, Full/Half Duplex
- Meet All applicable IEEE 802.3, 10Base-T and 100 Base-TX Standards

### USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- Compliant with Universal Host Controller Interface Specification Revision 1.1
- PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller, up to eight functional ports
- Support PCI-Bus Power Management Interface Specification release 1.1
- Legacy support for all downstream facing ports

### BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing

## Motherboard User's Guide

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- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

### Dimensions

- Micro ATX form factor of 244 x 192 mm

**Note:** Hardware specifications and software items are subject to change without notification.

### Package Contents

Your motherboard package ships with the following items:

- ☐ The motherboard
- ☐ The User's Guide
- ☐ One diskette drive ribbon cable (optional)
- ☐ One IDE drive ribbon cable
- ☐ The Software support CD

### Optional Accessories

You can purchase the following optional accessories for this motherboard.

- ☐ The Extended USB module
- ☐ The CNR v.90 56K Fax/Modem card
- ☐ The Serial ATA cable
- ☐ The Serial ATA power cable

**Note:** You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.

## Chapter 2 Motherboard Installation

To install this motherboard in a system, please follow these instructions in this chapter:

- ❑ Identify the motherboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this motherboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to headers/connectors on the motherboard
- ❑ Install peripheral devices and make the appropriate connections to headers/connectors on the motherboard

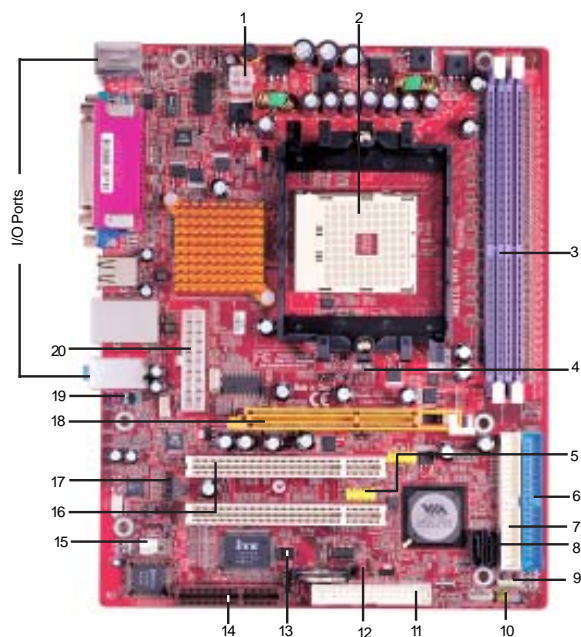
**Note:**

- 1 Before installing this motherboard, make sure jumper JP1 is under Normal setting. See this chapter for information about locating JP1 and the setting options.
- 2 Never connect power to the system during installation; otherwise, it may damage the motherboard.



## Motherboard User's Guide

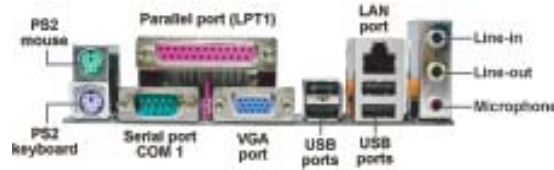
### Motherboard Components



ITEM	LABEL	COMPONENTS	COLOR
1	PWR2	Standard 4-Pin ATX Power connector	WHITE
2	CPU Socket	Socket-754 for AMD Athlon 64/Sempron CPUs	WHITE
3	DIMM1/2	Two 184-pin DDR SDRAM sockets	PURPLE
4	FAN2	CPU Fan connector(3PIN)	DARK RED
5	USB3/4	Front Panel USB headers	YELLOW
6	IDE1	Primary IDE connector	BLUE
7	IDE2	Sceondary IDE connector	WHITE
8	SATA1/2	Serial ATA connectors	BLACK
9	SPK1	Speaker header	LIME
10	PANEL1	Front Panel Switch/LED header	COLOR
11	FDD1	Floppy Disk Drive connector	WHITE
12	JP1	Clear CMOS jumper	RED
13	SIR1	Infrared header	BLACK
14	CNR1	CNR slot	BROWN
15	FAN1	System Fan connector	WHITE
16	PCI 1-2	32-bit PCI slots	WHITE
17	CD1	Analog Audio Input header	BLACK
18	AGP1	AGP 8X slot	ORANGE
19	AUDIO2	Front Panel Audio header	PURPLE
20	PWR1	Standard 20-Pin ATX Power connector	WHITE

### I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.



<b>PS/2 Mouse</b>	Use the upper PS/2 port to connect a PS/2 pointing device.
<b>PS/2 Keyboard</b>	Use the lower PS/2 port to connect a PS/2 keyboard.
<b>Parallel Port (LPT1)</b>	Use the Parallel port to connect printers or other parallel communications devices.
<b>Serial Port (COM1)</b>	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
<b>VGA Port</b>	Use the VGA port to connect V G A devices.
<b>LAN Port (optional)</b>	Connect an RJ-45 jack to the LAN port to connect your computer to the Netw ork.
<b>USB Ports</b>	Use the USB ports to connect USB devices.
<b>Audio Ports</b>	Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.

### Installing the Processor

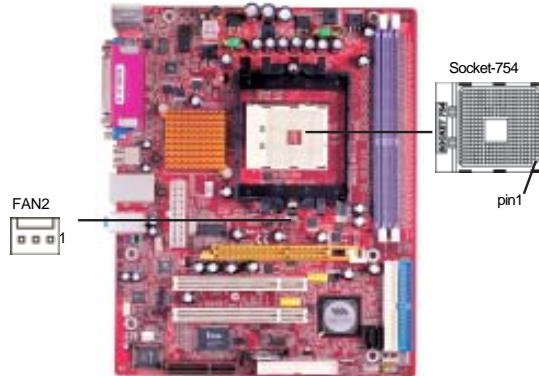
This motherboard has a socket 754 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

## Motherboard User's Guide

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### CPU Installation Procedure

Follow these instructions to install the CPU:



- 1 Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
- 2 Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
- 3 Push the locking lever down and hook it under the latch on the edge of socket.
- 4 Apply thermal grease to the top of the CPU.
- 5 Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
- 6 Plug the CPU fan power cable into the CPU fan connector (FAN2) on the motherboard.



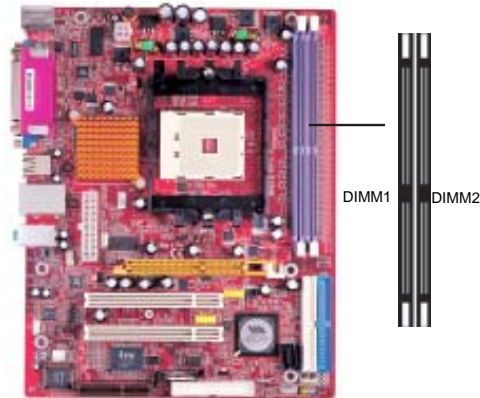
### Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR400/333/266** memory modules (Double Data Rate SDRAM), and maximum 2.0 GB installed memory.

## Chapter 2: Motherboard Installation

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 166 MHz or 200 MHz memory bus.

DDR SDRAM provides 2.1 GB/s, 2.7 GB/s or 3.2GB/s data transfer rate when the bus is 133 MHz, 166 MHz or 200 MHz, respectively.



### Memory Module Installation Procedure

These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.

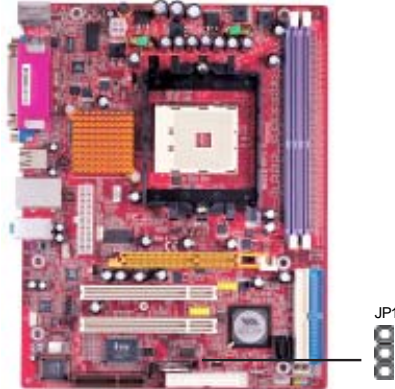


## Motherboard User's Guide

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### Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.



#### JP1: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

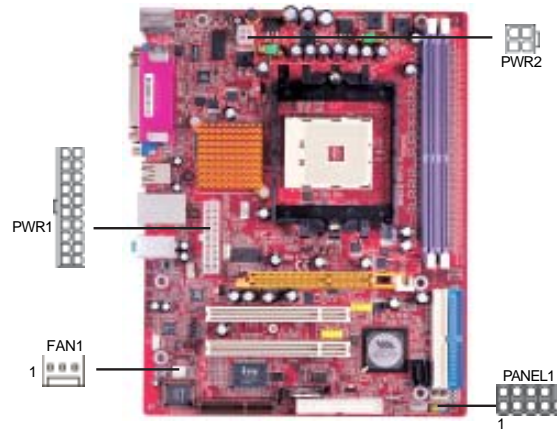
Function	Jumper
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

### Install The Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.

## Chapter 2: Motherboard Installation



Connect the power connector from the power supply to the **PWR1** connector on the motherboard. **PWR2** is a +12V connector for CPU Vcore power.

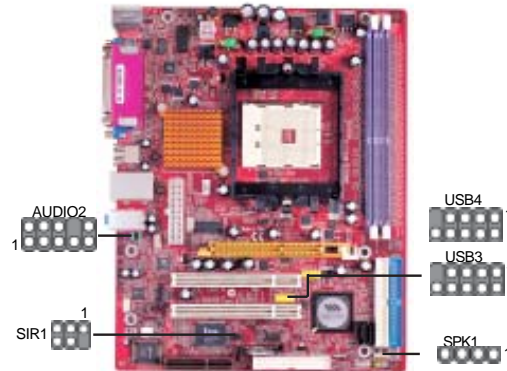
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **FAN2** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **PANEL1** header.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

### Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



#### SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

Pin	Signal
1	SPKR
2	NC
3	NC
4	+5V

#### AUDIO2: Front Panel Audio Header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal	Pin	Signal
1	AUD_MIC1	2	AUD_GND
3	AUD_MIC2	4	AUD_VCC
5	AUD_FROUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FROUT_L	10	AUD_RET_L

#### USB3/USB4: Front panel USB Header

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers USB3/USB4 to connect the front-mounted ports to the motherboard.

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## Chapter 2: Motherboard Installation

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Here is a list of USB pin assignments.

Pin	Signal	Pin	Signal
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	USB_FP_OC0

1. Locate the USB3/USB4 header on the motherboard.
2. Plug the bracket cable onto the USB3/USB4 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

### SIR1: Infrared Port Header

The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal	Pin	Signal
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-**SIR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the SIR1 header and then secure the port to an appropriate place in your system chassis.

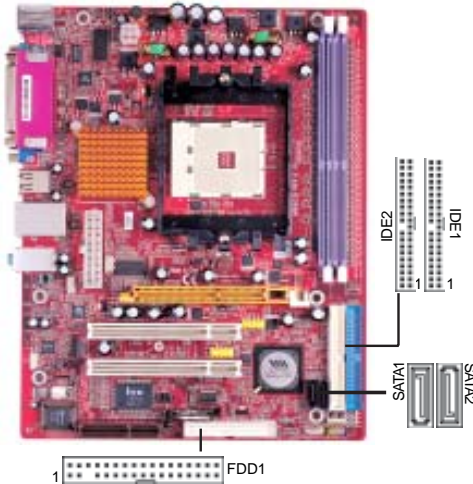


## Motherboard User's Guide

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### Install Other Devices

Install and connect any other devices in the system following the steps below.



#### Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD1**.

#### IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The mainboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the motherboard. If you have two devices on the cable, one must be Master and one must be Slave.

### Serial ATA Devices

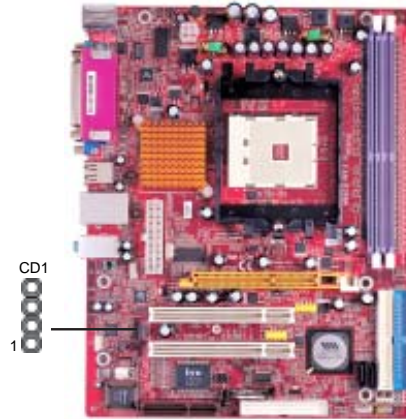
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **150 MB/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1-2**, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

### Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.



When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

## Motherboard User's Guide

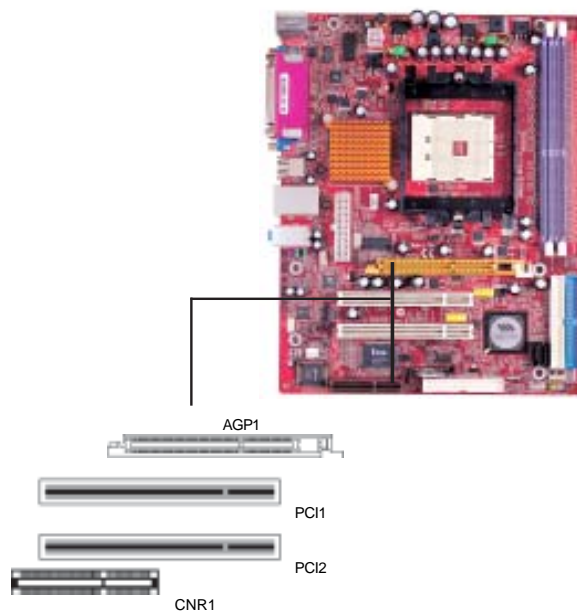
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Here is a list of CD1 pin assignments.

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

## Expansion Slots

This motherboard has one AGP, one CNR and two 32-bit PCI slots.



Follow the steps below to install an AGP/CNR/PCI expansion card.

1. Locate the AGP, CNR or PCI slots on the mainboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.

4. Secure the metal bracket of the card to the system chassis with a screw.



### **8X AGP Slot**

You can install a graphics adapter that supports the 8X AGP specification and has a 8X AGP edge connector in the AGP slot.

### **CNR Slot**

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

### **PCI Slots**

You can install the 32-bit PCI interface expansion cards in the slots.

## Chapter 3 BIOS Setup Utility

### Introduction

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

### Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to “Hit <DEL> if you want to run SETUP”. Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc	
<ul style="list-style-type: none"><li>■ Standard CMOS Setup</li><li>■ Advanced Setup</li><li>■ Features Setup</li><li>■ Power Management Setup</li><li>■ PCI / Plug and Play Setup</li><li>■ BIOS Security Features</li></ul>	<ul style="list-style-type: none"><li>■ CPU PnP Setup</li><li>■ Hardware Monitor</li><li>Load Optimal Defaults</li><li>Save Changes and Exit</li><li>Discard Changes and Exit</li></ul>
↑ ↓ ← → : Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit F1: General Help   F9: Optimized Defaults	
Standards CMOS setup for changing time, date, hard disk type, etc. V02.54 (C) 1985-2003, American Megatrends, Inc.	

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/- to modify the selected field's values.

## Chapter 3: BIOS Setup Utility

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting the **[OK]** or **[Cancel]** key.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.

### Standard CMOS Setup Page

This page displays a table of items defining basic information about your system.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Standard CMOS Setup		
System Time	00:004:12	Help Item
System Date	Mon 04/05/2004	
▶ Primary IDE Master	Not Detected	User [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system time.
▶ Primary IDE Slave	Not Detected	
▶ Secondary IDE Master	Not Detected	
▶ Secondary IDE Slave	Not Detected	
Floppy A	1.44 MB 3 1/2	
Floppy B	Disabled	
← →: Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit F1: General Help   F9: Optimized Defaults		

### Date & Time

These items set up system date and time.

### IDE Primary Master/Primary Slave/Secondary Master/Secondary Slave

Use these items to configure devices connected to the Primary/Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select *Floptical*.

### Floppy A/B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

## Motherboard User's Guide

### Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. Advanced Setup		
Quick Boot	Enabled	Help Item
1 <sup>st</sup> Boot Device	HDD:PM-ST3120023AS	Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
2 <sup>nd</sup> Boot Device	CD/DVD:3S-CD-ROM 52	
3 <sup>rd</sup> Boot Device	1ST FLOPPY DRIVE	
Try Other Boot Device	Yes	
Bootup Num-Lock	On	
Boot To OS/2 > 64MB	No	
AGP Aperture Size	64 MB	
CAS Latency (CL)	Auto	
TRCD	Auto	
TRAS	Auto	
TRP	Auto	
Auto Detect DIMM/PCI Clk	Enabled	
Spread Spectrum	Disabled	
Cool 'N' Quiet	Enabled	
← →: Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

#### Quick Boot

If you enable this item, the system starts up more quickly by elimination of some of the power on test routines.

#### 1<sup>st</sup> Boot Device/2<sup>nd</sup> Boot Device/3<sup>rd</sup> Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

#### Try Other Boot Device

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

#### BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.

#### Boot to OS/2 > 64MB

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

#### AGP Aperture Size

This item defines the size of aperture if you use a graphic adapter.

### **CAS Latency (CL)**

This item determines the operation of DRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

### **TRCD/TRAS/TRP**

These items adjust the efficiency and stability of DRAM.

### **Auto detect DIMM/PCI Clock**

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

### **Spread Spectrum**

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the system.

### **Cool 'N' Quiet**

It supports fan control to reduce fan noise when the CPU is running cool. This motherboard and BIOS requirements for a PowerNow! are identical. The same BIOS data structures are used.



## Motherboard User's Guide

### Features Setup Page

This page sets up some parameters for peripheral devices connected to the system.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Features Setup		
OnBoard Floppy Controller	Enabled	Help Item  Allows BIOS to Enable or Disable Floppy Controller.
Serial Port1 Address	3F8/IRQ4	
OnBoard IR Port	Disabled	
Parallel Port Address	378	
Parallel Port Mode	ECP	
ECP Mode DMA Chnnel	DMA3	
Parallel Port IRQ	IRQ7	
OnBoard PCI IDE Controller	Both	
OnBoard SATA-IDE	Enabled	
Audio Device	Enabled	
Modem Device	Auto	
Ethernet Device	Enabled	
OnBoard USB Function	Enabled	
USB Function For DOS	Disabled	
← → : Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit F1: General Help		

#### OnBoard Floppy Controller

Use this item to enable or disable the onboard floppy disk drive interface.

#### Serial Port1 Address

Use this item to enable or disable the onboard COM1/2 serial port, and to assign a port address.

#### OnBoard IR Port

Use this item to enable or disable the onboard infrared port, and to assign a port address.

#### Parallel Port Address

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

#### Parallel Port Mode

Use this item to set the parallel port mode. You can select ECP (Extended Capabilities Port).

#### ECP Mode DMA Channel

Use this item to assign a DMA channel to the parallel port.

#### Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

#### OnBoard PCI IDE Controller

Use this item to enable or disable both of the onboard Primary and Secondary IDE channels.

**OnBoard SATA-IDE**

Use this item to enable the onboard SATA-IDE channel.

**Audio Device**

This item enables or disables the AC'97 audio chip.

**Modem Device**

This item enables or disables the onboard Modem.

**Ethernet Device**

This item enables or disables the onboard Ethernet LAN.

**OnBoard USB Function**

Enable this item if you plan to use the USB ports on this motherboard.

**USB Function For DOS**

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

## Power Management Setup Page

This page sets some parameters for system power management operation.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Power Management Setup		
ACPI Aware O/S	Yes	Help Item
Power Management	Enabled	Enable / Disable ACPI support for Operating System. Enable: If OS supports ACPI. Disable: If OS does not support ACPI.
Suspend Mode	S1	
Suspend Time Out	Disabled	
Resume On RTC Alarm	Disabled	
LAN/Ring Power On	Disabled	
Keyboard Power On	Disabled	
Wake-Up key	Any key	
↑↓←→ : Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit F1: General Help   F9: Optimized Defaults		

**ACPI Aware O/S**

This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

**Power Management**

Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.

**Suspend Mode**

This item selects the status S1(Stop Clock) or S3(Suspend to RAM) when the system enters the power-saving Suspend mode.

## Motherboard User's Guide

### Suspend Time Out

This sets the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

### Resume On RTC Alarm / RTC Alarm Date (Days) / System Time

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

### LAN/Ring Power On

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

### Keyboard Power On

If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

### Wake-Up Key

When Keyboard Power On is set to "Wake-Up Key", this item is available and users can press any keys on the keyboard.

## PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. PCI / Plug and Play Setup	
Primary Graphics Adapter PCI	Help Item
Share Memory Size 32 MB	Option
Allocate IRQ to PCI VGA Yes	PCI
PCI IDE BusMaster Disabled	AGP
← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

### Primary Graphics Adapter

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

### Share Memory Size

This item lets you allocate a portion of the main memory for the onboard VGA display application with several options.

### Allocate IRQ to PCI VGA

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

### PCI IDE BusMaster

This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

## BIOS Security Features Setup Page

This page helps you install or change a password.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. BIOS Security Features	
Security Settings	Help Item
Supervisor Password : Not Installed Change Supervisor Password <span style="background-color: red; color: white;">Press Enter</span>	Install or Change the password.
← → : Move   Enter: Select   +/-: Value   F10: Save   Esc: Exit F1: General Help                      F9: Optimized Defaults	

### Supervisor Password

This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

### Change Supervisor Password

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

## Motherboard User's Guide

### CPU PnP Setup Page

This page helps you manually configure the mainboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. CPU PnP Setup		
CPU Type: AMD Athlon (tm) 64 Processor 3700+		Help Item
CPU Over-clocking Func. :	Disabled	CPU Freq Over Clock 200 to 230 MHz
CPU Frequenc. :	200 MHz	
DRAM Frequency :	SPD	
Memory Voltage :	2.6V	
ADD AGP Voltage :	Normal	
5V USB :	Dual	
CPU VID :	1.500V	
CPU Voltage Control :	Disabled	
↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

#### CPU Type

This item shows the type of the CPU installed in your system.

#### CPU Over-clocking Func.

This item decides the CPU over-clocking function installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

#### CPU Frequency

This item shows the frequency of the CPU installed in your system.

#### DRAM Frequency

This item shows the frequency of the DRAM in your system.

#### Memory Voltage

This item determines the DDR voltage adjustment.

#### CPU VID

This item shows voltage of the CPU in your system.

#### CPU Voltage Control

This item enables users to adjust the CPU voltage.

## Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this motherboard.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Hardware Monitor Setup		
*** System Hardware Monitor***		Help Item
Vcore	:1.463V	
Vdimm	:2.512V	
Vcc5V	:5.026V	
SB3V	:3.264V	
CPU FAN2 Speed	:4017 RPM	
SYSTEM FAN1 Speed	:0 RPM	
SYSTEM Temperature	:31°C/87°F	
CPU Temperature	:50°C/122°F	
⬅➡⬅➡ Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

### CPU/System Temperature

These items display CPU and system temperature measurement.

### FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

### Load Optimal Defaults

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select [OK], and then <Enter>, the Setup Utility loads all default values; or select [Cancel], and then <Enter>, the Setup Utility does not load default values.

**Note:** It is highly recommend that users enter this option to load optimal default values for accessing the best performance.

### Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility configuration. When the Save Changes and Exit dialog box appears, select [OK] to save and exit, or [Cancel] to return to the main menu.

### Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, select [OK] to discard changes and exit, or [Cancel] to return to the main menu.

**Note:** If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.

## Chapter 4 Software & Applications

### Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.

### Installing Support Software

- 1 Insert the support CD-ROM disc in the CD-ROM drive.
- 2 When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
- 3 The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.



The **Setup** button runs the software auto-installing program as explained in next section.

## Chapter 4: Software & Applications

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

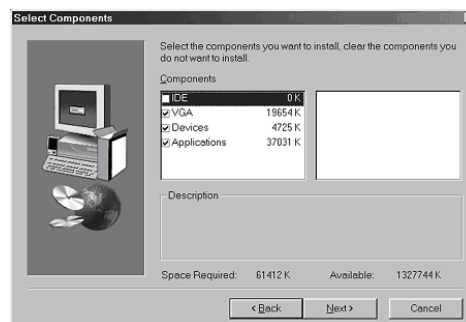
### Auto-Installing under Windows 2000/XP

If you are under Windows 2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

- 1 The installation program loads and displays the following screen. Click the **Next** button.



- 2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.





- 3 The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

### Installing under Windows NT or Manual Installation

If you are under Windows NT, the auto-installing program doesn't work out; or you have to do the manual installation, please follow this procedure while the Auto Setup screen pops out after inserting the support CD-ROM:

- 1 Click the **ReadMe** to bring up a screen, and then click the Install Path at the bottom of the screen.
- 2 Find out your mainboard model name and click on it to obtain its correct driver directory.
- 3 Install each software in accordance with the corresponding driver path.

### Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

- 1 Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
- 2 A software menu appears. Click the software you want to install.
- 3 Follow onscreen instructions to install the software program step by step until finished.